

U.S. Patent Application Serial No. 09/725,314
Response dated April 22, 2004
Reply to OA of March 3, 2004

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): In an assembly having a bucket tooth attached to a bucket lip via a fastening bolt, said bucket tooth comprising axial force fluctuation absorbing means for absorbing fluctuations in axial force of said fastening bolt after attaching one face side of said bucket tooth to face said bucket lip, wherein

said axial force fluctuation absorbing means provides resilient return force during said fluctuations in axial force by ~~causing~~ forming a warp ~~to occur by resilient deformation of~~ in said tooth beforehand and by forming a space between said bucket lip and bucket tooth before fastening, so that said one face side, bolted in a state where said one face side is positioned on the bucket lip side, becomes a concave face during action of said axial force fluctuation absorbing means.

Claim 2 (Cancelled)

Claim 3 (Previously Presented): The bucket tooth according to claim 1 wherein said warp is caused around a bolt hole into which the fastening bolt is inserted as a center, and an amount s of the warp is set to value satisfying an equation of $2 \text{ mm/m} \leq s \leq 15 \text{ mm/m}$.

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Claim 4 (Previously Presented): The bucket tooth according to claim 1, wherein said axial force fluctuation absorbing means provides said resilient return force by spot facing a circumferential portion of a bolt hole, in which said fastening bolt is inserted, on said one face side facing said bucket lip.

Claim 5 (Previously Presented): In an assembly having a bucket tooth attached to a bucket lip via a fastening bolt, said bucket tooth comprising axial force fluctuation absorbing means for absorbing fluctuations in axial force of said fastening bolt after attaching one face side of said bucket tooth to face said bucket lip, said axial force fluctuation absorbing means acting to cause or increase a gap between said one face side and said bucket lip, about the point of attachment, by action of a resilient return force found in the material from which said bucket tooth is fabricated, wherein

said axial force fluctuation absorbing means provides said resilient return force during said fluctuations in axial force by causing a warp to occur by resilient deformation of said tooth so that one face side, bolted in a state where said one face side is positioned on the bucket lip side, becomes a concave face, and

by spot-facing of a circumferential portion of a bolt hole, in which the fastening bolt is inserted, on said one face side facing said bucket lip.

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Claim 6 (Previously Presented): The bucket tooth according to claim 5, wherein a ratio (z) of a depth L of the spot facing to a diameter D of the spot facing ($= L/D$) is set to a value satisfying an equation of $2 \text{ mm/m} \leq z \leq 18 \text{ mm/m}$.

Claim 7 (Cancelled)

Claim 8 (Cancelled)

Claim 9 (Cancelled)

Claim 10 (Cancelled)

Claim 11 (Cancelled)

Claim 12 (Cancelled)

Claim 13 (Cancelled)

Claim 14 (Cancelled)

Claim 15 (Cancelled)

Claim 16 (Previously Presented): The bucket tooth according to claim 4, wherein a ratio (z) of a depth L of the spot facing to a diameter D of the spot facing ($= L/D$) is set to a value satisfying an equation of $2 \text{ mm/m} \leq z \leq 18 \text{ mm/m}$.